## IN THE CLAIMS

- 1. (Original) A method of impedance matching voice and data signals received by an apparatus, comprising:
  - receiving an input signal having at least one of a voice component, data component, and DC component;
  - filtering at least a portion of the data component and DC component of the input signal to provide a filtered signal;
  - adjusting an input impedance of the apparatus to a first preselected value for the voice band in response to the filtered signal;
  - adjusting the input impedance of the apparatus from the first preselected value to a second preselected value; and
  - adjusting at least one of a magnitude and phase of the filtered signal to adjust the input impedance to a third value.
- 2. (Original) The method of claim 1, wherein filtering at least the portion of the DC component includes filtering the DC component using a DC cancellation loop.
- 3. (Original) The method of claim 1, wherein filtering at least a portion of the data component includes filtering at least portion of the data component using a single-pole low pass filter.
- 4. (Original) The method of claim 1, further including adjusting the input impedance of the apparatus to a fourth preselected value for the data band.

- 5. (Original) The method of claim 4, wherein the fourth preselected value is in a range of 100 to 135 ohms.
- 6. (Original) The method of claim 4, wherein adjusting the input impedance includes adjusting the frequency characteristic of the filtered signal by a selected interval.
- 7. (Original) The method of claim 4, wherein the first preselected value is in a range of 600 to 1200 ohms.
  - 8. (Original) An apparatus for impedance matching, comprising:
  - circuitry adapted to receive an input signal having at least one of a voice, data, and DC component;
  - a first filter adapted to filter at least a portion of the data component of the input signal to provide a filtered data signal;
  - a second filter adapted to filter at least a portion of the DC component of the filtered data signal to provide a filtered signal;
  - a first impedance block adapted to adjust an input impedance of the apparatus to a first preselected value for the voice band in response to the filtered signal;
  - a second impedance block adapted to adjust the input impedance of the apparatus from the first preselected value to a second preselected value; and
  - a third impedance block adapted to adjust at least one of a magnitude and phase of the filtered signal to adjust the input impedance to a third value.

- 9. (Original) The apparatus of claim 8, wherein the second filter includes a DC cancellation loop capable of removing the portion of the DC component.
- 10. (Original) The apparatus of claim 8, wherein the first filter comprises a single-pole low pass filter.
- 11. (Original) The apparatus of claim 8, further including at least one resister for defining the input impedance of the apparatus to a fourth preselected value for the data band.
- 12. (Original) The apparatus of claim 11, wherein the fourth preselected value is in a range of 100 to 135 ohms.
- 13. (Original) The apparatus of claim 12, wherein the second impedance block and the third impedance block comprise a programmable impedance matching filter.
- 14. (Original) The apparatus of claim 12, wherein the first impedance block adapted to adjust the input impedance includes the first impedance block adapted to adjust the frequency of the filtered signal.
  - 15. (Original) An apparatus for impedance matching, comprising: circuitry adapted to receive an input signal having a voice, data, and DC component;

- a first filter adapted to filter at least a portion of the data component of the input signal to provide a filtered data signal;
- a second filter adapted to filter at least a portion of the DC component of the filtered data signal to provide a filtered signal;
- a first feedback loop adapted to adjust an input impedance of the apparatus to a first preselected value for the voice band in response to the filtered signal;
- a second feedback loop adapted to adjust the input impedance of the first apparatus from the first preselected value to a second preselected value; and
- a third feedback loop adapted to adjust at least one of a magnitude and phase of the filtered signal to adjust the input impedance to a third value.
- 16. (Original) The apparatus of claim 15, wherein the third feedback loop comprises:
- a filter capable of removing at least a portion of a residual DC component from the filtered signal and providing an output signal; and
- a Z-filter block capable of adjusting a frequency response of the output signal.
- 17. (Original) The apparatus of claim 15, further including at least one resister for defining the input impedance of the apparatus to a fourth preselected value for the data band.
- 18. (Original) The apparatus of claim 17, wherein the fourth preselected value is in a range of 100 to 135 ohms.

- 19. (Original) An apparatus supporting transmission of signals carrying voice and data on a subscriber line, comprising:
  - a subscriber line interface circuit adapted receive an input signal having a voice, data, and DC component;
  - a first filter adapted to filter at least a portion of the data component of the input signal to provide a filtered data signal;
  - a second filter adapted to filter at least a portion of the DC component of the filtered data signal to provide a filtered signal; and
  - wherein the subscriber line interface circuit includes a first loop adapted adjust an input impedance of the apparatus to a first preselected value for the voice band in response to the filtered signal; and
  - a digital signal processor comprising:
    - a second feedback loop adapted to adjust the input impedance of the apparatus
      from the first preselected value to a second preselected value; and
      a third feedback loop adapted to adjust at least one of a magnitude and phase of
      the filtered signal to adjust the input impedance to a third value.
- 20. (Original) The apparatus of claim 19, wherein the subscriber line integrated circuit is a voltage subscriber line interface circuit.
  - 21. (Original) The apparatus of claim 19, the third feedback loop comprises:
  - a filter capable of removing at least a portion of a residual DC component from the filtered signal and providing an output signal; and

- a Z-filter block capable of adjusting at least one of a gain and phase of the output signal.
- 22. (Original) The apparatus of claim 21, further including at least one resister for defining the input impedance of the apparatus to a selected value for the data band.
- 23. (Original) The apparatus of claim 22, wherein the selected value is in a range of 100 to 135 ohms.
  - 24. (Original) An apparatus, comprising:
  - means for receiving an input signal having at least one of a voice component, data component, and DC component;
  - means for filtering at least a portion of the data component and DC component of the input signal to provide a filtered signal;
  - means for adjusting an input impedance of the apparatus to a first preselected value for the voice band in response to the filtered signal;
  - means for adjusting the input impedance of the first apparatus from the first preselected value to a second preselected value; and
  - means for adjusting at least one of a magnitude and phase of the filtered signal to adjust the input impedance to a third value.